**SQL Mentor User Performance Analysis**

**Project Overview**

This project is designed to help beginners understand SQL querying and performance analysis using real-time data from SQL Mentor datasets. In this project, you will analyze user performance by creating and querying a table of user submissions. The goal is to solve a series of SQL problems to extract meaningful insights from user data.

**Objectives**

* Learn how to use SQL for data analysis tasks such as aggregation, filtering, and ranking.
* Understand how to calculate and manipulate data in a real-world dataset.
* Gain hands-on experience with SQL functions like COUNT, SUM, AVG, EXTRACT(), and DENSE\_RANK().
* Develop skills for performance analysis using SQL by solving different types of data problems related to user performance.

**Project Level: Beginner**

This project is designed for beginners who are familiar with the basics of SQL and want to learn how to handle real-world data analysis problems. You'll be working with a small dataset and writing SQL queries to solve different tasks that are commonly encountered in data analytics.

**SQL Mentor User Performance Dataset**

The dataset consists of information about user submissions for an online learning platform. Each submission includes:

* User ID
* Question ID
* Points Earned
* Submission Timestamp
* Username

This data allows you to analyze user performance in terms of correct and incorrect submissions, total points earned, and daily/weekly activity.

**SQL Problems and Questions**

Here are the SQL problems that you will solve as part of this project:

**Q1. List All Distinct Users and Their Stats**

* **Description**: Return the user name, total submissions, and total points earned by each user.
* **Expected Output**: A list of users with their submission count and total points.

**Q2. Calculate the Daily Average Points for Each User**

* **Description**: For each day, calculate the average points earned by each user.
* **Expected Output**: A report showing the average points per user for each day.

**Q3. Find the Top 3 Users with the Most Correct Submissions for Each Day**

* **Description**: Identify the top 3 users with the most correct submissions for each day.
* **Expected Output**: A list of users and their correct submissions, ranked daily.

**Q4. Find the Top 5 Users with the Highest Number of Incorrect Submissions**

* **Description**: Identify the top 5 users with the highest number of incorrect submissions.
* **Expected Output**: A list of users with the count of incorrect submissions.

**Q5. Find the Top 10 Performers for Each Week**

* **Description**: Identify the top 10 users with the highest total points earned each week.
* **Expected Output**: A report showing the top 10 users ranked by total points per week.

**Key SQL Concepts Covered**

* **Aggregation**: Using COUNT, SUM, AVG to aggregate data.
* **Date Functions**: Using EXTRACT() and TO\_CHAR() for manipulating dates.
* **Conditional Aggregation**: Using CASE WHEN to handle positive and negative submissions.
* **Ranking**: Using DENSE\_RANK() to rank users based on their performance.
* **Group By**: Aggregating results by groups (e.g., by user, by day, by week).

**Acknowledgments**

The dataset idea for this project was highlighted by the YouTube channel [**Zero Analyst**](https://www.youtube.com/@zero_analyst) in one of their project videos. All analysis and conclusions drawn from the data were performed independently for this project.

**Conclusion**

This project provides an excellent opportunity for beginners to apply their SQL knowledge to solve practical data problems. By working through these SQL queries, you'll gain hands-on experience with data aggregation, ranking, date manipulation, and conditional logic.

**Author**

* **Parveen Jalwal**
* **LinkedIn**: <https://www.linkedin.com/in/parveen-jalwal-201a2a302>